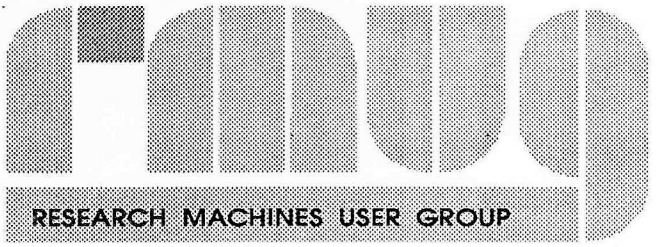
RM User

Volume 8:1

May 1993



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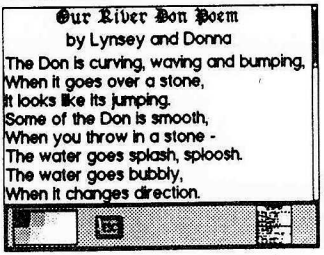
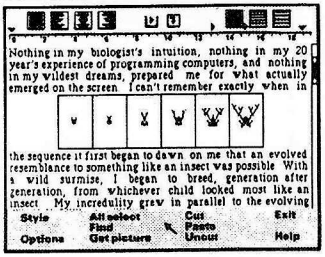
For the beginner . . .


Our River Don Poem
by Lynsey and Donna
The Don is curving, waving and bumping,
When it goes over a stone,
It looks like its jumping.
Some of the Don is smooth,
When you throw in a stone -
The water goes splash, splooosh.
The water goes bubbly,
When it changes direction.

For more advanced users . . .


Nothing in my biologist's intuition, nothing in my 20 year's experience of programming computers, and nothing in my wildest dreams, prepared me for what actually emerged on the screen. I can't remember exactly when in
the sequence it first began to dawn on me that an evolved resemblance to something like an insect was possible. With a wild surmise, I began to breed, generation after generation, from whichever child looked most like an insect. My incredulity grew in parallel to the evolving
Style
All select
Cut
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Options
Get picture
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Nimbus or IBM £39 + VAT Nimbus network or IBM site licence £109 + VAT
(IBM requires colour EGA graphics)

SPA

PO BOX 59, Tewkesbury,
Gloucestershire GL20 6AB
Telephone (0684) 81700 FAX (0684) 81718

HelpLine

The User Group exists to help its members use the computers which they have.

Many of you (about 20%) are home users of Nimbus computers and we would like to help you. Mary Mabey is a home user who has kindly agreed to let us publish her phone number; you may call her at home on 081 698 7573 if you want some advice on using your computer.

You may find that you have a problem which you feel is too trivial for Customer Support or you may have a problem with which they can't help, perhaps because you have a non-standard setup for your equipment or you are using third-party equipment. This is the time when we may be able to help.

Remember that you can telephone the User Group members in the evening or at weekends when RM is shut (and, of course, you are just bound to hit problems). Also, RM don't claim to have great knowledge of products which they don't producesuch as Excel or PageMaker. They can tell you how to install the packages on their equipment and how to get started but they cannot be expected to give you in depth support on using the packages. We, on the other hand, can. Most of the people whose phone numbers are listed at the back are using the contents of the educational software library on a daily basis. We may have met exactly the problem you have just encountered.

If you are in difficulty, please feel free to ring anybody on the Committee (numbers at the back) and you may also phone Tim Phillips on 0284 706623 (home number).

It is a great help if you are having a problem doing something using your computer if you can be next to it

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RM User 8:2 ..... 11 June 1993
RM User 8:3 ..... 10 September 1993
RM User 8:4 ..... 12 November 1993
RM User 8:5 ..... 14 January 1994
RM User 8:6 ..... 4 March 1994

The date shown above is the ***latest*** date for copy for the magazine. You will normally receive the magazine about 2-3 weeks after the date shown.

Missing a Magazine?

Unfortunately some people missed issue 7:6 of the magazine. If your renewal reached me after 18 March but before 15 April then you may not have received this magazine. If this is the case then please contact the editor; phone 081 740 5642 or write to RMUG, FREEPOST, London W12 0BR and give your name and address

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News and Editorial

Welcome to the first issue of volume 8 of *RM User*. Elsewhere in the magazine you'll find a report on the AGM which marked the end of our year; thanks to every one who attended and welcome to all those who are joining the committee for the first time. I'd just like to say a quick farewell as membership secretary; for the past 6 years it's been my fault if you've not received magazines or been sent two invoices or whatever. I've always been pleased to read the comments that some of you add to the forms you send me and I'll miss the piles of mail that the postman brings me! My best wishes go to Maureen Wernham as she takes over the job.

I went to an RM InSITE Conference in London just before Easter and was very impressed. RM are trying very hard to let people know that they don't just sell boxes but do have a pretty good plan for the way in which IT should be used to enhance the working of every school. There's not much point in telling you everything that you missed if you couldn't get to it but if RM run similar sessions again then do make an effort to get to one. A few points, however, are worth repeating. £1000 in 1991 bought a PC186 with 20Mb drive, 1Mb of memory and a mono monitor. A year later it bought a 16MHz 386 with 40Mb drive, 2Mb of memory and a 256 colour screen. In 1993 it will buy a 25MHz 486 with 80Mb drive, 4Mb of memory and SVGA screen with "True Colour". It's hard to say what it will buy in 1994 but the rate of progress has been very impressive so far. (In 1983 I seem to remember that a BBC with 32kbof memory, single floppy drive offering 400kb of storage and a low resolution colour monitor cost about £1000 for a comparison from a bit further ago!)

Other interesting statistics concerned the proportion of each type of processor in use. In 1991, approximately 21 million 80x86 based computers (such as the Nimbus) had been sold, 1.8 million Apple Macintosh computers, about ¼ million Sparc computers and round about zero ARM (Acorn RISC Machine) based computers. (Obviously not zero, but the graph has such a small bar that it is insignificant. We can argue for ever about the relative merits of the RISC and CISC architecture, Windows against the Archimedes and so on but out in the "real world" people use PCs. I think we do a disservice to our students if we don't reflect that in schools. That's not to say that we should never let them use computers other than PCs; it's important that they are able to use other machines at least sometimes but I don't think that they get preparation for what they are most likely to meet at work if they do not use PCs for most of the time) Operating systems give a similar spread of figures; last year DOS/Windows accounted for 85%, Macintosh for 10%, Unix for about 4% and OS/2 for just 1%.

RM have recently launched a new 486 notebook, the NB480. It comes as standard with 4Mb of memory and 80Mb drive and has a 9.5" screen (larger than before). A major advantage is that the batteries are Nickel Metal Hydride. NMH batteries have a longer life than NiCad which are commonly used and, importantly, don't suffer the "charge memory" of

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NiCads (if you don't discharge them fully before recharging then eventually you can't use more than a part of their capacity). It also has what RM call a Pad Mouse; the keys can be used to emulate a mouse.

RM have also launched a new range of CD ROM and multi-media systems, both network and standalone. The network server is based on an S-Series machine and includes the Guardian, Information Finder and the Oxford English Dictionary for £2599.

Multi-media continues to be one of those fascinating things that I'm still not sure about. I sometimes think that it's going to be wonderful and then I'm not so sure. It's very expensive to produce good multi-media and so I'm afraid that not much of it will get into education. Actually playing it back gets cheaper all the time, however. CD ROM drives are still falling in price and growing in ability. The best price I've seen was £159 for a Mitsumi drive (Tiny Computers in Walthamstow, Tel: 081 523 4020). I've seen the drive and apart from the fact that it doesn't use a caddy system which may make it more sensitive to dust it seems fine. It's specification is up to the MPC standard and in use it seems acceptably fast. Sound cards are also very cheap and Video for Windows can be played back on any reasonable PC (386 with 4Mb RAM and 256 colour graphics for Windows) It's not yet available for RM networks (because it needs Windows 3.1) but I'm sure it will be soon. It looks a bit jerky but it **could** be useful.

Printers are much more mundane than multi-media but probably more important for most of us. For the past year I've been using the Hewlett Packard Deskjet 500 when ever I wanted a reasonably priced but fair quality printer. It gives quality that's not far off a laser although it's much slower. It has two disadvantages; it's quite expensive to run for graphics with a lot of black in them and it simply won't work with Lan Spool on a network. Epson have just brought out a new inkjet printer, the Stylus 800, which is supposed to give even better results because it doesn't heat up the ink to get it on the paper. I've just bought one and it is certainly as good; text looks sharper but that may just be down to using slightly different fonts, and the ink certainly dries more quickly. Expect to pay about £250 for one if you can get hold of them. Javelin Computers are my heroes of the month; they didn't have them in stock when I phoned but promised to call me when they did. Not only did they call back but the price was still the same and they delivered the next day after I faxed an order to them. If only all companies were so efficient! Javelin are in Blackburn, Tel: 0254 263388.

Still on the subject of printers, Hewlett Packard have just launched several new inkjets. The 510 (which replaces the 500) is supposed to be faster and, I'm told, more network friendly. The 1200 is a colour printer which can uses 4 cartridges (cyan, yellow, magenta and black) so can also print plain black. Simple text gives a speed of about 3 pages per minute while complex colour graphics can degrade performance to about 2-3 minutes per page. I've seen a print sample from it and it's excellent but until I'm sure it works with a network I'm not going near it! I've seen it advertised for about £1100 which seems a lot but if it can be a network printer handling colour and black and white then it's not too bad.

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The Centre for World Development Education has sent me some more information about Sand Harvest, the computer based role play simulation of life in the Sahel Desert. It's not just a program because it comes with extensive documentation giving ideas as to how the program should be used to integrate it into normal teaching as well s instructions for use. This is always to be welcomed; I don't want to see a return to the "Right, this week we do our 'computer' lesson" sort of attitude where the lesson doesn't really fit into the rest of the teaching. One of the best things about the package is its site licence pricing; a single copy costs £94.00 and a site licence just £129.25 (both prices include postage and VAT). More details from CWDE on 071 831 3844.

I've been looking at a program called Neopaint. It's a very impressive shareware painting program which works well on a standalone Nimbus (286 or greater; it really needs VGA graphics) but at the moment I'm having problems getting it to run properly on the network where memory is that bit tighter. Registration costs £39 plus VAT and postage for a single copy but there are excellent prices available for multiple copies to education. Contact Transend on 0274 622228 for more details.

Part of the reason that the magazine is later than I wanted it to be is that I spent quite a lot of time at Easter getting RM Net LM installed in school. I now have a 3 server network with just over 60 stations and it all works! Thanks go to Charlie Dobbs and Tony Sheppard from RM who spent rather a lot of time on site helping to make it work. I've not had much to do with other computer companies so I don't know how they compare with RM. I've certainly found that there really are people at RM who care about making sure that what they've sold you actually does what you want it to do; as someone recently said to me, RM sometimes make mistakes but at least you know that their heart is basically in the right place!

I'll try and pass on some of what I've learnt about running this system in the next magazine; obviously not everyone has such a system but as the price of hardware continues to fall it's not unreasonable to assume that more and more schools will have multi-server networks. Once the system has been set up the user really has no need to know where the software is being loaded from or where their files are being stored because the system takes care of all that. With Netware it's necessary to specifically choose the server connections (it can be automated but this just makes more work for the administrator) Netware 4 seems to improve on this but Lan Manager is already here and does the job.

I've also been learning about which bits of the system RM have added and which belong to Lan Manager; basically everything that's done by Station Manager is RM's work as are the bits of User Manager that control what programs appear on the Windows Desktop and the MTSL system for loading programs. It may not seem much out of the whole system but they're pretty important parts and without them there would be an awful lot more work for the administrator. I still have a "wish list" for the future and I do hope that some of it will appear in the future!

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Your new Committee

The following article gives some brief information about half of your Committee (the rest will follow in July). If you do have problems with using your computer or its software then please do phone us.

Ian Burgess (Chair)

Head of IT at St Dunstan's College, Catford and independent day school for boys aged 7-18. Experienced of managing a multi-server RMNetLM network with 186 and upwards stations. Contact at home: Edtec House, 5 Polsted Road, Catford, London SE6 4YH Tel: 081 690 5427 School: St Dunstan's College Stanstead Road, Catford, London SE6 4TY Tel: 081 690 1274

Phillip Fox (Vice-Chair)

Now Development Officer for IT Qualifications, University of Cambridge Local Examinations Syndicate but formerly a network manager with experience of RM Net 3 and Net 3.1, CD ROM servers and mixed Z-Net and Ethernet with 186+ stations. Long term user of most Microsoft products.

John Williams (Secretary)

Full-time network manager at Stratford-upon-Avon College since 1983. Experience of 480Z - CP/Net, Chain 64 networks, PC186 networks from Net 1 to Net 3.1, and RMNetLM with stations from 186 - 486. Much experience with multi-server networks.

Helen Williams (Treasurer)

Divisional Director Research, Development and Student Services - Stratford-upon-Avon College. User of RM computers from 380z-486. Current usage mainly Windows and DOS applications. Senior Moderator for A Level Computing.

Maureen Wernham (Membership Sec.)

Head of IT/ Computing and Network Manager at Sutton High School (GPDST) Surrey with pupils aged 11-18. Currently using Net 3.1A running Znet and Ethernet with 186, 286, 386 and 486 stations and a Chain 64 network of 480z. A user of RM computers since 380z. Most importantly, retiring in July!

Steve Rochford (Editor)

Head of IT/Network Manager at Latymer Upper School, Hammersmith. Running (just!) multi-server (including CD ROM) RMNetLM network with 286 and 386 stations on Ethernet. Previous experience of Net 2 - Net 3.1 with 186 -386 stations and Chain 16 and 64 networks with 480z. Low-level programmer at heart but mainly an applications user these days.

Mary Mabey

Resource Centre Manager at Bacon's College. Interested in the home use of computers and in the development of multi-media and CD ROM as sources of information. I run an IT reference site for school librarians at the college.

David Palmer

Head of IT at Ackworth School, Pontefract. Running a network for 2 years from Net 3 via Net 3.1 to RMNetLM. Network is mainly 186 on Z-Net. Experience with Apple Macsand interested in CD ROM and external EMail (eg Compuserve, address 100021,3420 Applelink, Ackworth.sch)

Peter Wallace

Head of IT at King's School, Rochester Kent with pupils aged 4-18. Experience with standalone and network 186, 286 and 386 computers and RM Net from Net 2 to Net 3.1

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Your User Group

Ian Burgess - Chairman

Many of you reading this may be doing so in a few precious moments snatched between the concerns of key stage assessments, IT delivery across the curriculum, network administration, or training and support for colleagues. At such times it may be reassuring to know that there are others out there with like problems but, equally frustrating to know that just the solution you are looking for may have been discovered elsewhere. Similarly the feeling of 'reinventing the wheel' does little to enhance morale or promote our effective use of that most valuable resource - time!

We all have something to offer; a simple solution to a common problem; an effective way to get across a particular point; an understanding of the reasons behind an action; or just the airing of a view or question that might put someone else on the path to a solution. I believe that the User Group can provide the vital link - the communication channel - that will enable all of us to share our experiences and benefit from the knowledge of others so that we may spend more of our time using information technology to enhance the quality of our lives, both at work and at home, and rather less of our valuable time looking for solutions.

The User Group is your organisation, the committee is your committee - you have just elected it - and it should try to provide the services you need at a price you can afford, not just so that you remain a member but so that you feel your membership of the User Group is a valuable and worthwhile activity. Since joining the group I have certainly benefited greatly and I now hope that I will be able to, in some small way, repay that debt through my new role as your chairman. It was very pleasing to see at the AGM that so many members were keen to serve, or to continue to serve, on the committee and I am sure I can speak for all of them in thanking you for your support. We have the first meeting of the new committee very shortly and in the next issue of the magazine I hope to provide further details of your committee and their responsibilities.

In 1988 Sheila Maynard joined the committee as software librarian and has served us very well both in that post and with all the help she has given to the full range of User Group activities over the past five years. She inherited an interesting mixture of CP/M programs and Nimbus software and she has gradually rationalised it all and developed an effective service for members.

Les Watson joined the committee in 1984 and became membership secretary in 1985, staying there until 1987 when he took a break from the committee for a year. He rejoined in 1988 and spent a year as conference organiser. He was elected chairman in 1991 and led the User Group for the last two years during which time he has continued to work hard to enhance the standing of the group and to develop further effective channels of communication with Research Machines. On your behalf I thank both Sheila and Les for all their efforts and I hope that their continued association with the User Group will be both long and happy

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Report on the Annual General Meeting

.On Saturday 27 March 1993 the Inner London Educational Computing Centre kindly provided use of their excellent facilities for the well attended User Group AGM. After coffee and a welcome from the Chairman, Les Watson, the minutes of the previous AGM were accepted. Les outlined the major achievements and events of the year and the reports of Officers were presented. It was noted that the highly successful training weekend had been run to budget and that the User Group finances were healthy despite the increasing costs of providing services to members.

RM's Home and School Purchase Scheme had been a fruitful source of new members - over 90 during the year - but turnover of members was still quite high even though membership was steady at about 500.

Six issues of the magazine had been distributed during the year and the 'extra copy' for members to pass on had been widely appreciated. More magazine contributions from members were eagerly sought by the Editor.

After the election of Officers; further details of which appear elsewhere; Mike Chase, Public Sector Marketing Manager of Microsoft, made the first presentation of the day. Mike - formerly with RM - started by outlining Microsoft's marketing structure and pricing policies with particular reference to the educational sector. The channel, licensing issues,buying patterns and customer care programmes were all featured together with product information on Windows for Workgroups, MS-DOS 6, Academic Licence Packs, Access, and the new range of Multimedia CD-ROMs which are due for release over the next few months. Mike concluded by emphasising that a focus on education was a key part of Microsoft's long term strategy. The number of wide ranging issues raised produced a lively question and answer session which gave members the opportunity to put across their views and concerns in a most constructive way.

Our host for the day, Chris Abbott, Acting Director of ILECC, took the floor and turned members attention to the very real difficulties facing the provision of IT support in the light of recent developments and Government measures. Those in schools, colleges and adult education institutes able to make use of ILECC's cost effective and highly regarded services are indeed fortunate for as Chris pointed out such provision had all but disappeared in many parts of the country. ILECC's future in the medium term is secure with the London Borough of Hammersmith and Fulham although, regretfully, some staff posts, especially those for special needs provision, had gone. After questions to Chris members were able to talk to exhibitors at the software fair and enjoy lunch in the ILECC canteen.

Colin Watkins of Research Machines gave the afternoon presentation in his usual highly entertaining manner. He proclaimed that the PC-486/25SX was now RM's best seller - they no longer make any 386s! - detailed the advantages of 1MB true colour graphics now fitted and outlined recent price changes. The new NB480 notebook with its nickel

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metal hydride battery for greatly improved power management was demonstrated and developments in multimedia, PhotoCD, network colour printing and other hardware issues discussed in detail. Improvements to support and hotline services were revealed and the latest developments on a number of outstanding 'issues' such as remote printing and Email were carefully explained. Those with Net3.1 have not been forgotten and new servers and upgrades are to be made available for those unable to migrate to RM NetLM. As always Colin provided a clear insight into RM's strategies as well as informative answers to a large number of searching questions.

Finally further mention must be made of all those who contributed to the success of the day by organising and manning exhibition stands, or providing displays or literature.

Micro Mart

For Sale:

Nimbus PC1 which has been substantially upgraded by two careful owners. You are invited to make an offer for the system or any part of it.

System Comprises:

- Original Colour monitor and keyboard
- RM Mouse
- 128k RAM + 1Mb RAM board
- Version 1.32F firmware
- IBM utility board
- BBC style parallel port
- Cumana 3½" external floppy
- Cumana 42Mb external hard disc
- Cumana Super SASI interface card
- RM external 5¼" external disc drive - not working
- Epson LX-86 dot matrix printer with sheet feeder

all with appropriate manuals and cables.

Software available:

Purchased with system

- MS DOS 3.1
- RM BASIC, Logo, Menu
- Windows

all with appropriate manuals

Primary Software

- SPA - Write On, Muddles, PaintSPA, Early Maths Suite
- CSH - Primary Spreadsheet
- LTS - Mathemagic Land
- ILEA - Mathematics with a story 1 & 2

all in original packaging

Contact:

Roy Ashley, 23 Brook Way, Bromham, Bedfordshire, MK43 8PG Tel: 0234 825114 (Home) or 0234 767123 (School)

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RM Net LM Update for RM User Group

The following statements represent the latest product specification and release information for RM Net LM and supersede any information previously published by Research Machines. We are grateful to Research Machines for making this information available to the User Group.

Email

The email product that we originally commissioned for RM Net LM is not of sufficient quality to deliver to our customers. We are now rethinking our email policy and looking at alternative products.

Whilst there is uncertainty over the product, we consider it is inappropriate to continue to raise customer expectations and we are withdrawing it. All customers who bought RM Net LM prior to 1st April 1993 will be offered an email product, free of charge, as soon as we have one to ship. For other customers we would recommend Microsoft MS Mail, which will be available from RM soon.

Courseware

The Courseware modules Maths, English, Science and History (at Key Stage 3) are designed where possible to work with the lowest common denominator as regards software and hardware platforms. This allows the current courseware to be used with Excel 2.1 and Word for Windows 1.1 on PC-186 stations. This does not however restrict the use of RM Courseware to these software versions. All Courseware modules currently shipped by RM are fully supported on all M and S Series stations running Word for Windows 2.1 or lower and Excel 3.0 or lower.

RM Net LM and software library upgrades

The next major release of RM Net LM will be RM Net LM 2.0. As well as many minor enhancements, this will include a change to the operating environment, the network operating system and the network software library. Whilst precise details are not yet finalised, the specification of the product is expected to be as follows:

Core operating system:
Microsoft LAN Manger 2.2 (or later version)

Operating environment:
Windows 3.1

Word Processor:
Microsoft Word for Windows 2

Spreadsheet:
Microsoft Excel 4

DTP:
Aldus Pagemaker 4

Database:
Microsoft Access

The new applications will be available individually, as upgrade products. Exact details of the cost, specification and availability of these upgrade products will be communicated as soon as possible. Please note that because of the need for extensive field-trials, RM Net LM 2.0 will not be available in volume until the Autumn Term 1993.

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New RM Net LM CD-ROM Fileservers

We have recently announced advanced new CD-ROM fileservers for RM Net LM based on the S Series PC-486/25 system, with an 8-user networking licence and Hitachi 1700S drive. Servers are available with an exclusive software library for schools of leading CD-ROM titles, providing excellent value for money to education. The titles include The Oxford English Dictionary, The Guardian and Information Finder; the combined cost of these applications would almost reach £1000 if bought separately. Order Code 035-282, price is £2599.

Micro Mart

For Sale:

Borland C++ (v2.0)	£30
Quattro Pro (v4)	£30

Both in perfect condition, all original manuals and discs (3.½" and 5¼")

Wanted

Does any one have a copy of The RM Nimbus (PC186) Advanced Programmer's Reference guide (PN14989) that they no longer need. It's now unobtainable from RM.

Contact

Mike Fitzgerald, 13 Belle Vue Avenue, Gosforth, Newcastle upon Tyne, NE3 1AH Tel: 091 285 7806

For Sale:

Cumana SCSI interface for PC186 £15, Floppy disc controller for PC186 £10, Full height 3½" drive for PC186 £15. All the above prices include postage.

Contact:

Stephen Sharrad 10 Gainsborough Hill, Henley-on-Thames, Oxfordshire, RG9 1ST Tel: 0491 577149

For Sale:

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Letters to the Editor

I am responding to your call for articles from Home/Parent users. You may be interested in the following:

We bought our 386SX (16MHZ, 2MB RAM, 40MB hard disk) and portable printer in December 1991 and have therefore used it for just over a year. The equipment has been fault free and we have therefore found it to be a good purchase.

As a family we have begun to develop our computing skills, although we are still rather narrow, specialising on Word for Windows, Tetris (the leading score is currently 22,643!) and other games.

Word for Windows takes a huge chunk out of the hard disk and this has meant that the number of applications on the hard disk at any one time has been severely restricted. I have been contemplating upgrading or replacing with a 486SX to achieve better response time and more capacity. Both options are expensive. I am disappointed at the RM upgrade prices - £429 for 160MB hard disk and 4MB RAM for £199 plus VAT. However, now DOS 6 is available, I wonder whether installation is straightforward and, if so, whether it will improve RM PC efficiency over DOS 4 and double the disk space. For £60 this would seem to be very good value, providing there are no technical snags. Do you know the answer?

I have experienced some difficulties in getting demo disks to run because there is insufficient RAM. I have been rather cautious about altering files in the root directory but I have now established how to edit the CONFIG.SYS file to ensure there is sufficient RAM available, ie 570Kb. The following advice may be of help for others in this fix.

use Notepad in Windows Accessories to edit the CONFIG.SYS file in the root directory as follows:

start at the DOS prompt to ensure that the CONFIG.SYS file can be edited

type *attrib -r CONFIG.SYS* (allows write as well as read)

type *WIN* to get into Windows

move to Notepad in Windows Accessories

load CONFIG.SYS (use File Open and type the full name; C:\CONFIG.SYS)

save it onto "A" drive (floppy) so that you can restore it if things go wrong

edit using cursor by prefixing all non-crucial lines with rem which immobilises their functioning as follows:

```
rem Config.sys for HOME AND
  SCHOOL system
rem select for both IBM and
  PC186 mode software (default)
rem PC-286/386
files=30
buffers=20
rem device=\sys\signon.sys
country=44,437,\sys\country.sys
device=\sys\himem.sys
rem device=\sys\rm.sys
rem device=\sys\rmnimbus.sys
rem device=\sys\rmdevice.sys
rem device=\sys\smartdrv.sys 768
device=\sys\mouse.sys
```

save file on "C" (hard disk)

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reboot, ie switch PC off and then on, to make computer read modified file

enter date and time on screen when prompted

memory should have increased to the magic 570 and applications should now work

Finally, several other points:

i) Initially I had quite a lot of trouble trying to get BBC basic programs to load - the instructions were never "idiot proof".
ii) Sometimes when booting-up the cursor is locked and we have to re-boot. Although annoying we have got used to this quirk.
iii) Whilst we did not wish to be mail-shotted frequently by RM or Microsoft, there has been no information follow-up to keep us abreast of new products. Clearly there has been nothing on DOS 6.
iv) Does anyone have any advice on colour printers and larger, 17" screens.
v) I think RM User is very good value.

I hope this isn't too long or disjointed.

Yours sincerely,

A R Helm

More or less in order these are my thoughts:

I've installed DOS 6 and have had no problems. See the separate article for a description of how I got on but if you're short of disc space and/or you're currently running DOS 4 then it's well worth upgrading. (It's about £50 plus VAT - shop around if you're asked for more!)

You're certainly not alone in having problems with BBC Basic programs; considering that most of them are intended for non-computer specialists the install instructions are often abysmal!

RM's mailings fluctuate; it's often worth a phone call to Sales to see if they have anything interesting. They seem to take the attitude that most people don't want junk mail, which is laudable, but it does make it difficult to find out what they are doing. Microsoft are another matter; I had 3 mailings about DOS 6 at home and more at school!

For standalone use I think the Hewlett Packard 550C is excellent; expect to pay about £430 + VAT. The 500C is about £100 less and has similar quality colour but the black in a colour picture is poorer (it's blended from yellow, magenta and cyan) I don't really know about large monitors; does any one else?

Thanks for the comment about RM User!

It has been drawn to my attention that errors exist in the SEAC booklet, ***TECHNOLOGY Te5*** *Suggested Guidelines for a more standardised approach to Information Technology in Teacher Assessment. Modelling with Turtle Graphics, Key Stages 1 and 2.* Published in 1993 by NCET under contract from SEAC.

There are syntax errors in the Appendix - Procedures, with particular reference to the RM Logo listings. It would appear that there are also errors in the listings for the other two versions given.

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The : (colon) should refer to the variable name and not a procedure name or repeat command; ie :PETALS.

A procedure name that consists of two or more words has to have these two words linked, usually with an underline character eg ONE_PETAL. This procedure is also referred to on page 4 of the booklet, paragraphs 4e, 4b (three times).

The RM Logo listing for the Research Machines Nimbus range of computers should be as follows and, to be consistent, should all be printed in bold type:

```
flower 'petals
repeat :petals [one_petal rt
  360 / :petals]

one_petal
repeat 2 [curve rt 90]

curve
repeat 18 [fd 5 rt 5]
```

To take you into the editor, you have to type one of the following three options:

```
build flower
to flower
edit flower
```

The preferable option is the second one, to flower as this is the notation used in LCSI Logo, the de-facto international standard Logo.

Other comments: Page 4, 4b(3) the answer as given for describing "what rules is ONE_PETAL following?" would appear to be incorrect; "two 90 degree turns in the middle" is surely equivalent to one 180 degree turn in the middle. My correspondent also wrote: I was trying to guess how long it would take to assess my 26 year six pupils - just on these ATs!

Peter Butt, City of London School, Queen Victoria Street, EC4V 3AL.

The following article offers, I hope, some more food for thought on the Logo issue. Do you have any ideas about how we can really *assess IT capability without major disruption. Write and let me know!*

Modelling with Turtle Graphics

Jim Seth

I should own to having used Logo in one way or another for a number of years, mainly using the LCSI version on a BBC computer. However, with one computer in the classroom and there being competition for its use in the various national curriculum areas, there is not as much opportunity for Logo as my pupils need, to have a thorough grounding either for the IT requirement or even for the maths ones, which of course are different!

I like Logo for its potential in problem solving and in collaborative learning in mathematics because it stimulates so much mathematical discussion. So, I was intrigued by the SEAC Te5 document, Modelling with Turtle Graphics.

We have had an RM Nimbus with RM Logo since last September and my year 6 children have had a great deal of fun playing with multiple turtles and sprites as well as getting to grips with the intricacies of the filing system so

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that they can store their work under their own names. At first we did not even have a manual so they put out a plea for help on CAMPUS 2000 which was answered by one of the local comprehensives who sent us the Head of their Maths department for half a morning to teach us how it worked. Brilliant education in action!

SEAC, yes the SEAC procedures when typed in did not work! Had I read the glossy document properly? Were the pupils supposed to make them work? Was this in fact a test for the teacher? No, they were just wrong! I fiddled about with the procedures while I ate my lunch and finally got something which I thought was what was supposed to happen. You type FLOWER followed by a number, and a flower head is drawn with that number of petals.

When asked to explain how the rules of the procedure called FLOWER are working.... my children missed the point. SEAC apparently want them to say that the number refers to the number of petals and for them to predict that if they put FLOWER_2 it will do two petals. My class however got very hung up on what the procedures ONE_PETAL and CURVE had to do with it. Also they were terribly frustrated that they could not call up all three procedures at the same time as they could with EDALL on the BBC. *(EDITV TITLES in RM Logo - editor)*

I suppose it says something about my approach and teaching that they really objected to following a course of prescribed questions. They wanted to get on with changing things so that they could have different sizes of flower, in different places, with stalks and leaves and even colour. After half a dozen groups, I let them be as creative with the procedures as they liked. They produced some good work but, not really in the spirit of the test!

The biggest problem is this... what should the rest of the class be doing when I am assessing these two statements with each of my class? (The document's main task lists 12 questions for the children to talk about and test.) The process would take hours, although if I HAD to do something like this, I would have given them an exercise the previous week so they could trot out the required answers but then, that would hardly be in the spirit of Logo. I'm sure Seymour Papert would have to be dragged off by little men in white coats at the very thought.

The answer of course is .... set the class some work that they can get on with. In other words, some work which requires no teacher input! I have a problem with that in that I think I should be teaching most of the time. It's what I get paid for quite apart from the fact that unless I stand behind some of my class they would never get ANY work done. How they love it when the pressure is off and I am at the other side of the room doing some nice little assessment task.

This task is a non-starter for any teacher who has little or no Logo experience. It is a virtual non-starter for me as outlined above. I'd love to visit and talk to the teacher who can use this task successfully in the way it was meant and do everything else as well!

Do I hear you utter, "cynic"? who? me? Honest, I really like my job.

Jim Seth is a Year 6 class teacher, Stithians CP School, Cornwall.

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RM User Group Training Weekend 22-24 October 1993
Novotel Stevenage

This year we are returning to the Novotel in Stevenage, venue for last year's successful weekend. Preparations for the Weekend are now underway. At the moment the courses available include:

- ✯ Word for Windows
- ✯ Excel
- ✯ Access- the database from Microsoft which should be shipping with RM Networks by the time the weekend takes place. (This is a high-end product but is very easy to use)
- ✯ RM Investigate (Data Logging for Science) and Control software and hardware
- ✯ Professional Development
- ✯ Getting Started with your computer - particularly using the Window Box applications
- ✯ Looking after a standalone computer -using DOS and Windows
- ✯ Network Management with Net 3.1A particularly for a mixed network - PC186 to PC486
- ✯ Network Management with RMNetLM - making the most of your server
- ✯ Multi-Media
- ✯ Desktop Publishing - learn how to put together information from a variety of sources to produce simple newsletters or a magazine like RM User
- ✯ "Agony Aunt" sessions; a chance to talk to RM staff and experienced members of the User Group about any problems you may be having (preferably with your computer!)

More details will be sent to you shortly but if you want to reserve a place now then send a cheque for £25 made payable to **RMUG** to:

Training Weekend
RMUG
FREEPOST
London
W12 0BR

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Using Software Toolworks Multimedia Encyclopedia

Peter Butt

Having recently taken delivery of a standalone CD-ROM machine for the school library, with its three example discs, we knew that out 'techies' would migrate to it without any problems. However, would they do anything useful ? But more to the point, what about the others ?

The following are examples of two worksheets that I have given to my year 7 pupils to introduce them to The Software Toolworks Multimedia Encyclopedia one of the three disc that are included with the system. The worksheets have the same format so that they can be massed produced for there is enough information in the encyclopedia for each pupil to be given their own set of questions. I found that producing the sheets took longer than I had first anticipated for, it is so easy to become interested in the contents of a page about a subject that one had not known anything about before. But essentially, that is what we would like to happen to our pupils whilst they are answering their own specific questions.

Obtain the Multimedia Encyclopedia CD-ROM disc from the librarian.

Switch on the computer: POWER (front bottom right hand corner)

Wait for the message:'Place relevant disc in drive'.

The arrow on the disc caddy shows the way it should go in.

At the C:\> prompt type: stw<enter>

Eventually the title comes up; read how to QUIT the system and then <enter> to continue.

The Search Choices box should appear.

Press enter for the Word Search option type: computer

click twice on: begin search

What is the fraction that appears on the right hand side? .....

This tells you how many articles there are that include the word 'computer'. The number should indicate that there are too many for you to look at, one by one.

Click on the first WITH line of the Word Search box and type: crime

What is the fraction that appears on the right hand side? .....

view titles

You should have an article on Computer Crime.

Read through it to find when were the firstcases of computer crime reported?

.....

Press <Esc> <Esc> to go back to the Word Search box

Search in a similar way for a connection between: chinese and pebbles.

What was the earliest abacus made from? .....

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Go back to Search Choices (keep pressing ESC)

Use the Timeline to find out:

when humans first domesticated wild dogs? .....

who became Pharaoh of Egypt in 1503BC? .....

what was founded in London in 1400AD? .....

Go back to Search Choices(keep pressing ESC)

Use the knowledge tree sequence:

Technology / Technology Areas / Tools, Machines and Instruments / Miscellaneous to obtain information about: perpetual motion machines

What does the British Patent Office do about them? .....

Go back to Search Choices

Press enter for the Word Search option and type: New Zealand

click twice on: begin search

What is the fraction that appears on the right hand side? .....

This tells you how many articles there are that include 'New Zealand'. The number should indicate that there are too many for you to look at, one by one.

Click on the first WITH line of the Word Search box and type: lighthouse

What is the fraction that appears on the right hand side? .....

view titles

You should now have an article about a New Zealand lighthouse

What did a cat do in 1894?

Press <Esc> <Esc> to go back to the Word Search box

Search in a similar way for a connection between: channel and tunnel.

When was this project first stopped and why?

Go back to Search Choices (keep pressing ESC)

Use the Timeline to find out:

which is the oldest known city?

.....

what did a monk do in 1242AD?

.....

what became official in 1801AD?

.....

Go back to Search Choices (keep pressing ESC)

Use the knowledge tree sequence:

Society/Sports, Games & Recreation/ Holidays & Anniversaries/ Miscellaneous: to find out:

when were the first Greeting Cards sent .....

Thanks to Peter for these ideas and I know exactly what he means about the time it can take! If you would like a copy of the text of this worksheet on disc then please send a disc to The Editor , RMUG, FREEPOST, London W12 0BR. The file is stored as a Word for DOS document which means that you can read it with Word 3, Word 5 and Word for WIndows 1 and 2 as well as Aldus PageMaker!

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RM User Group Magazine Volume 7 Index

Compiled by Stephen D. Sharrad.

This index I hope includes everything which has been printed in the last six issues of RM User, or Volume 7. I hope soon to have completed comprehensive indexes to previous Volumes. The variety of the things in the index just goes to show the hard work put in by many, not least our editor, Steve Rochford.

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Technical Tips

Stephen D. Sharrad

This edition of tech tips is to do mostly with hard disc drives, simply because I've had a lot of problems with them lately!

Drive On

Recently I managed to obtain a Seagate 125N SCSI drive, for use with a PC186 system. I connected in the Seagate 125N (the external hard disc unit I was using at the time was a Seagate 225N, the 5.25 inch version; both drives are 21MB drives). However, I could not get both drives to work together, (i.e. Not ready errors) even after I gave the new 125N a low-level format.

The PC186 uses the SASI (Shugart Associate System Interface) interface, which is basically a cut down version of the more widely known SCSI (Small Computer System Interface) system. The only differences are things that PC186 users can't use on a PC186 anyway, such as bus multi-tasking.

The SASI controller uses plain SCSI drives. Here is one problem: Most lower capacity PC drives are IDE (Integrated Drive Electronic) drives (as they are cheaper), and small SCSI drives are very hard (and expensive) to find. The second problem is this: The SCSI bus is designed to have, if need be, several drives on one bus. Like ordinary SCSI, the PC186 hard disc bus must be terminated with terminating resistors in the correct place, rather like a Z-Net cable network. The only problem is this: The design of the PC186 incorporates a set of terminating resistors (SIL resistors) on the controller, so one end of the bus is already terminated.

If you have an internal hard disc, then there is no problem, as most hard disc when brought new, have terminating resistors in sockets fitted to them. If you have no internal hard disc, but have an external unit, then the terminating resistors will be fitted to the external unit. Okay, so what happens if you have an external hard disc fitted to your system but then wish to fit an internal hard disc?

This is where my Seagate 125N comes in. Each separate hard disc must have an address on the bus (set by links on the back of the drive - be careful, some links on some drives are read in the reverse order to those on other drives), and the system (whether it be a PC186 or a SystemBase) will only attempt to boot from the hard disc with the links either in the "0" position (if there is one) or no links at all. Okay, but the links were in the correct position. I now realised that the terminating resistors had to be removed from the internal hard drive for the system to work. I removed the resistors, but the system still booted off the external drive. This was now because the Seagate 225N (the external drive) came up to power long before the internal drive.

So, if you are a PC186 user, then it is best to make your external unit the program (and system drive) especially if you are using two different types of drive. Also, you may find that there is a connector on the SASI controller board for an internal drive. If you are using an external unit simultaneously then DON'T use the internal connector otherwise one or both drives will come up with a "Not Ready Error." You can have the

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internal drive being connected to a cable which runs out through the back of the machine onto the external connector or cable. On a PC186, use CONFIG to tell your computer that you have one internal and one external drive. Put the links on the internal drive to make it drive 0 (and remove the terminating resistors from it but make sure that there are some on the external drive; they are normally very close to the connector on the hard disc's circuit board. The computer will then boot from the external drive but know which is the internal and which is the external drive. I still occasionally receive a seek error from the internal drive, but this is only because I can still boot off the external unit and attempt to access the internal drive before it is ready.

Much of what I have said regarding PC186 SASI/SCSI mess also applies to any other computer using SCSI drives. Don't forget to run the CMOS setup program (often by pressing DEL on startup) to tell the computer what types of drive are fitted. One major difference between PC186 floppy drives and the standard PC arrangement is that on a normal PC, drive B is recognised by a twist in the IDC cable (see later). However, on a PC186 each drive either has links (half-height drives) or a slide switch (most full-height drives) to tell the computer whether the drive is Drive 0 (drive A) or drive 1 (drive B). If you set a drive to drive 1 and yet drive 0 does not exist, the drive will not be accessed at all and you will need to change the settings. PC186 external floppy drives can come off the same internal floppy bus, as drives 3 and 4.

I have just mentioned the twist in the floppy cable for standard PC's. The controller likes its drives starting from drive 0 upwards, whereas the actual floppy drives start off from drive 1 - therefore the twists on the cable to identify the drives correctly.

External hard drives on 102 key PC186 systems.

You may have noticed if you brought a re-styled 102 key PC186 system with an internal 40MB Conner drive, that a sticky label tells you that External Drives cannot be used with these systems, contact RM Services for details. The reason (I think) is simply to do with the terminating resistors. Sometimes the hard disc can be used but data transfer will be completely unreliable and serious seek errors (or not ready errors) may be reported.

Replacing (or removing) the resistors from the Conner drives can be a very tricky job so the best thing to do would be to make the Conner drive the last drive on the chain (configure it as drive 1, it will show up to DOS as an external drive) and make the external drive the internal drive by setting it to drive 0, and removing the resistors from it. The best thing, though, is to give RM Services a ring!

No I won't!

Some PC186 users may have used high-density floppy discs formatted to double-density on their machines. Be careful, though, for several reasons. First of all, if you format a high density disc to double density, and then put the disc in a high-density machine, you will need to cover up the little hole on the right-hand side of the disc otherwise a general failure or data error will be reported.

Secondly, older 84 key PC186 systems with full-height 3.5" drives will not read high-density discs at all, (data

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error) whether or not they are formatted to high or double density. Obviously their drives sense something fishy is going on (whether or not you cover up the little notch) and completely give up.

Network Managers with older releases of RM Net and PC186 stations need also to beware. Early networks would have on them the PC186 DOS FORMAT utility version 1. This version of format MUST NOT be used on systems with half-height drives. Therefore, system managers should replace all copies of FORMAT 1 with that of FORMAT 2.0A which will cope with all types of drive on all types of PC186.

As the PC186 came to the end of its production life with RM, RM introduced the PC40 systems. These systems use Conner drives, which are self-parking (all drives from RM for about 5 years have been self-parking). However, these 40MB drives are NOT supported by the 84-key system's firmware. Although versions 1.40 and above (for 102-key systems) do support these drives, they do not support the 84 key keyboard. Contact RM for more details. The drives I can personally vouch work on a PC186 84 key system are the Seagate 125N and 225N 20MB drives, the Rodime RO652-20 20MB drive, and the Conner 3020 20 MB drive. Drives larger than 20MB for the 84 key systems are available, but these are not SCSI drives and usually have an interface mounted underneath the hard disc in an external unit (therefore limiting an internal hard disc in an 84 key system to 20MB as the interface for larger drives is too big..). Examples of these are the Seagate 277R (an RLL drive), 60MB drive, and some Nippon Electric drives. The 40MB drive for the 102 key system is the Conner 3040.

Software Review

The piece of software I have chosen to review this time round was mentioned in the last edition of RM User. Sharrad Software's "Hangman" software is an inexpensive opportunity for primary and lower secondary school teachers. I believe Sharrad Software are about to bring out a Teacher Resource pack, including teaching notes, examples and exercise sheets for use in the classroom. The Hangman learning environment is simple and easy to use (even I can use it!) and allows the lessons to be flexible and is certainly more than just a word guessing game. You can create your own multiple sets of words on different topics (the computer has a powerful word editor). An example might be just for simple spelling lessons or to ask students to categorise words (if, for example, the set of words are fruit and vegetables, for example).

If a set of words was reasonably small, teachers can ask students to play the programme until they have written down on paper all of the words, spelt correctly and in the right category. An on-screen score counter assists the students in keeping track, and the programme allows them to go at their own pace. Fun sound (sound can be turned off and on by the user) and graphics help make Hangman as interactive as possible, and for 10 pounds for a site license, Hangman is certainly worth considering. Although Hangman is aimed at younger children some colleges of further education as well as primary schools have already

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obtained copies. Sharrad Software also promises to send out any new versions of Hangman if the original purchase was 3 months or less past. Hangman also now includes completely free RM Basic 2.00, and will run on any RM machine in RM Mode. It will also run extremely well across any network, and user support can be obtained at any time from Sharrad Software. Further details can be obtained from Sharrad Software, 10 Gainsborough Hill, Henley-On-Thames, Oxon, RG9 1ST or telephone Andrew on (0491) 577149.

Amazing Fact

Why are hard discs sometimes referred to as Winchester discs?

The original hard discs were called hard discs. These drives were slow and predictably unreliable. IBM some years ago mounted a project on improving the hard drive, and, as coincidence would have it, the research team was based in Winchester, in England (therefore the name). Also, Winchester discs were the first hard discs to have the rotating (3600 rpm) discs completely hermetically sealed, and had much faster access times.

APOLOGY: The second from last edition of Tech Tips did in fact contain an error for which I apologise. The last part of the article talked about the system resources for Windows 3. However, the system resource percentage is a quotation of how much of the windows global heap memory (64K) is free, not the entire amount of memory. (However, an RM leaflet also says that it is the total amount of memory, but this is incorrect).

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Microsoft Musical Instruments

Mary Mabey

"This is an excellent programme in all respects. Of interest to schools, colleges and home users alike, The MS Musical Instruments is FANTASTIC! Quite the best use of Multimedia that I have seen- absolutely indispensible for music teachers. All this for a really incredible price!"

After reading an introduction like this you must be wondering who has bribed me! I assure you that no bribery is involved and I recommend this disk without hesitation. It has something to offer all age ranges and can be used on every level from casual browser to serious music student. I wish this had been around when I was teaching music instead of playing with computers.

It is a true multimedia Windows programme although it does not include video or animation. You will, of course, need a soundblaster card and speakers or an inbuilt audio capability or the value of this disk is greatly reduced! It is the result of a joint venture between the book publisher Dorling Kindersly and Microsoft. The publishing input is immediately apparent in the opening menu which closely mirrors the way in which you would normally approach a book by offering the user three ways of searching the disk

1. A "contents" page as in a book which leads to further sub-menus.
2. The main Index as found in all books.
3. The opportunity to browse into the material on the disk using the "random" button which mirrors the idea of flicking over pages in a book.

The Index scores over books in the ease with which you can locate articles even with incorrect spelling. The submenus of the "contents" page allow you to go to the next layer of information by clicking the appropriate word on the screen. The browsing facility is fun although you can create the same effect by random selection from the main index list.

One slight reservation is that to close a sub-window on screen you click on a tiny, unlabelled, splodge on the top left of the menu bar or on the area outside the last opened window. This is learned by trial and error - yes you could read the booklet but why should you? A clearer sign would help but why is it impossible to use the "esc" key to close the Window? There is also a slight misrepresentation of facts in the ranges ascribed to certain instruments. Those quoted for each instrument exclude notes at the far extremes of the range eg. the top register of the flute is given as 'G' but it can actually play up to the 'C' above. This is a minor point but irritating if you need to know precise details of range for orchestration purposes.

Illustrations

The art work is of the excellent standard normally associated with the Dorling Kindersley "Eyewitness" books but the disk scores enormously over the traditional book format as it allows you to enlarge certain areas such as the mouthpiece or thumb rest of a clarinet for closer scrutiny. Many intruments are presented from several viewpoints.

There is no animation in this package although it could have been used to show how the hammers in a piano work, the vibration of a string,

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the physics of musical sounds, how a tight drumskin makes a higher sound etc. Presumably a decision was taken to exclude animation to make space for the huge number of sound clips which have been incorporated into the package.

Sound Excerpts.

This is where the disk scores over any book on musical instruments. The task of matching sounds with instruments has been done with enormous care and skill. It is most impressive in the detail which it covers. An illustraion of a piano leads a user to look at the pedals and there is a snippet of music to show how the "soft" pedal affects the sound. A picture of a clarinet mouthpiece gives the sound minus the body of the instrument which can then be compared to the sound of the entire instrument. From the Post horn you can link to the natural horn and then to the modern orchestral horn, all with suitable musical illustrations. If this is still too superficial for the real enthusiast, the French horn screen gives a formal solo passage, the basic harmonic series and a hand stopped clip plus the chance to play the whole range of the instrument or select individual notes. You can also hear the instrument in an orchestral excerpt and as a member of a chamber group. Surely this must satisfy even the most fanatic horn player?

Popular Music and Jazz.

The emphasis of this package is predominantly classical but jazz , popular and ethnic music are covered to a lesser degree. There are opportunities to "play the drums" in the jazz section where you can click on each of the many illustrated instruments and literally "play your own" improvisation. A particularly interesting and valuable addition to the normal range of classical instruments is the section called "Instruments of the World" which shows the folk/ traditional instruments of different regions. Europe includes bagpipes, cimbalon, alphorn, hurdygurdy and hardanger fiddle but Africa, is of course, the richest source of ethnic instruments. Each is presented with descriptive notes and a short sound clip.

Ensembles

No book can so clearly illustrate the difference between an orchestra, chamber group, wind band or steel band. This is so comprehensive that even the different periods of orchestral development are given their own sub menu and sound clip. Popular music is served equally well with Rock Bands being divided further into four more subsections to include heavy metal, rock and roll, soft rock and pop.

This is multimedia at its best. There is almost nothing to fault in this product apart from the rather cavalier way that **most** but not **all** of the musical clips are identified and the slightly obscure way in which the foreground window is cancelled. Perhaps a future edition could be extended to form the "Encyclopaedia of musical instruments and musical terms." This could include animated sequences as suggested above for the Physics of music plus definitions of some basic musical terms such "arpeggio," "cadenza" etc.

One hidden extra for librarians buying this disk.. ...a pair of headphones will be essential for a quiet life!

Available at £49 from Research Machines and Optech.

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Talking Shop

David Palmer

One of the most exciting things that happened to me recently was getting chewing gum on one of my mouse balls. This led to complete dis-assembly of the rodent and fascination at the lumino-mechanical operation of it. If you have never delved into one I recommend it. It actually functions by the ball turning two rollers which are on shafts leading to larger spoked wheels, mounted between an LED and a sensor. The turning ball thus causes the light beam to be broken a certain number of times indicating how far it has moved on that axis. I am thinking of exploding an old one onto a wall as a display feature.

I am also hoping to dip a toe into the multimedia pool. We already show Quicktime movies on a Mac IIsi and it might well be that that is the beast that will become enabled with a video capture board first. I would like a Canon Ion but I have been told that you can actually get better definition from most video cameras and we have these in the school already. The Canon (or a Logitech Fotoman) does offer a lot less fuss in that you are working with stills and so have finite choices to make. I haven't seen a proper demo of video capture from an ordinary video camera yet and I would welcome feedback from anyone who has (Tel **0977 615225** Compuserve **100021,3420** Applelink **ACKWORTH.SCH** - also call if I can give you more data about other topics). I am not rushing into it because I know how many hours get soaked up when just scanning an image and then editing it. Clarisworks 2, which is a brilliant program and now out for Windows, offers the facility of toning images up or down and has a much bigger pallette than the original program which means that you have so much more choice. More choice means spending more time making choices and I can imagine what would happen when editing video frames.

I have ordered the new Lego Dacta control kit which looks as if it might be very useful. I don't know when it will arrive. I imagine they have scored a bit of a marketing coup by announcing it to a control-hungry world of IT staff. I hope they will manage to deliver the goods soon. I will let you know what it's like.

There is some great gossip and some very interesting philosophy in "Accidental Empires" by Robert Cringely. I heartily recommend it and it is much more readable than most books about this business.

I would also like to rave about something called MathCad. It is very hard to describe. It is like a very mathematically literate word processor. If you type the maths in and it is solvable then it will be solved. If it is graphable (I realise I am on the frontiers of the English language here) then it will draw a graph for you. It can also differentiate and integrate (if it is .....). There are many other functions and symbols on a palette at the side of your workspace. I think it will cause some to throw up their hands in horror in the same way that calculators and spelling checkers do but I believe it is a logical extension of the process of giving our students more and more powerful tools to work with. You can order a demo disc from 0462 480055.

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Another excellent program is Three Dee World Builder. It is described as "the easy way to visualise and create in three dimensions. Design 3D models on the computer screen, then print out the nets on paper or card for easy making" It comes with a built in database of models ready designed but, more importantly, a teacher manual with more than 300 learning modules civering everything from DNA to relief maps of the seabed via maths, design technology and chemistry. It works on all Nimbuses and is available in a Windows 3 version. It costs £99 for a school licence and a demo disc is available. Contact Polyhedron Software on 0865 300759 for more details.

We are still running RMNetLM on our mainly 186 network. I still think it is A Good Thing in spite of dreaming of the good old days of Net 3.1 when everything ran fast and behaved well. I am not going to give up and adopt Doslogon because I think Windows is a very important environment and sometimes it is the hassles that make the lessons most useful. I **would** like to go up to Ethernet instead of our Slow Znet. I immersed myself in National Curriculum stuff over Easter (the neighbours complained about the smell) and almost understood it all but then real life intervened and it all drifted away again. I went to an NDTEF Inset day and would highly recommend them. They have these awesome people who have a Global View of things. I think the solution is to get these sort of people and send them around to schools to walk us through it. I know..... we could call them "Advisory Teachers"!

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LAN Manager Networking Concepts

(This article is an abridged version of a Microsoft Knowledge Base Article. MSKB is accessible from Compuserve and contains a huge amount of information about all Microsoft products; there are about 400 articles on Lan Manager alone!)

A PC local area network consists of two or more PCs with network adapter cards installed, and that are connected to each other by a system of communication media such as twisted pair telephone wiring or optical fibre

In addition to the base operating system, network software, such as LAN Manager, must be installed to facilitate communication and shared resource access among these networked PCs.

Network Services

LAN Manager is implemented as a series of services built around a core network communications engine.

Standard Services

Each service performs a major network function. The standard LAN Manager package includes all of the services listed here:

- ✯ Server
- ✯ Workstation
- ✯ Netlogon
- ✯ Replicator
- ✯ Timesource
- ✯ Alerter
- ✯ Messenger
- ✯ Netpopup
- ✯ Netrun
- ✯ Uninterruptible Power Supply
- ✯ Remoteboot
- ✯ Fault Tolerance
- ✯ Netware Connectivity
- ✯ Tape Backup

(Not all these services need to be started for the server to run and they are not all included as standard with RMNetLM. Remoteboot is replaced with RMBoot which is more flexible)

Included among these are the Server service, which enables a PC to make its resources available to users on other network PCs; and the workstation service, which enables network users to access the server's shared resources.

Optional Services and Utilities

In addition to the standard services, the LAN Manager product line includes a number of optional services and utilities that may be purchased separately:

- ✯ Services For Macintosh
- ✯ Remote Access Service
- ✯ TCP/IP Utility Suite with Socket API
- ✯ 3Com Migration Toolkit
- ✯ LAN Manager Programmer's Toolkit
- ✯ LAN Manager Visual Basic Programmer's Toolkit

The Remote Access Service (RAS), for example, supports dial-in network access from remote workstations.

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Custom Services and Applications

Because the LAN Manager architecture is based on standard operating systems such as MS-DOS, Windows, and OS/2, you can use the LAN Manager programmer's toolkits (LAN Manager Programmer's Toolkit and LAN Manager Visual Basic Programmer's Toolkit) to quickly and easily develop your own custom network services and applications. An example of an add-in service is Shany Computer's Spool+ package which can be used to provide remote printing.

In fact, Microsoft and its development partners have used the LAN Manager Programmer's Toolkit to develop a couple of client-server network applications that Microsoft is pretty proud of:

- ✯ Microsoft SQL Server
- ✯ DCA/Microsoft Comm Server

Workstation Service

As you install LAN Manager on each PC, you'll select the services you want to run on that computer. All network PCs will be configured to run at least the Workstation service, which enables access to network resources.

When the Workstation service is installed, a computer name (COMPUTERNAME) must be provided that will uniquely identify the PC on the network. Examples of computer names are WORK1, SERVERX1, and WORK2.

Server Service

At least one of the PCs on your network will be configured to run the Server service. Although a PC running the Server service is often referred to as a "server," it's important to note that with LAN Manager, when a PC is running the Server service, it also continues to run the Workstation service and thus retains full functionality as a network workstation.

The Server service enables the PC to make its resources, such as disks, printers, and modems, available to users on other workstations. An important feature of LAN Manager is the ability of the Server service to make a very special resource available. This is the Inter- Process Communication (IPC) resource, which enables networked Named Pipes.

A Named Pipes connection between two network PCs allows applications running on the two computers to exchange information directly, without having to write to, or read from the file system. Named Pipes are the foundation for LAN Manager's superior client server architecture.

In LAN Manager, setting up a server resource to make it available to network users is called "sharing" the resource. A shared resource, or "share," is assigned a name called the "share name." For example, the WORDDATA directory on SERVERX1's hard disk might be shared with the share name WDOC.

Share Name	Resource
WDOC	c:\worddata

Users connect to the share by specifying a local device identifier, such as a drive letter or a printer port, along with the server name and the name of the share to which they want to associate the specified device identifier. This local device connection to a shared server resource is called "using" the share, and the resulting connection is referred

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to as a "USE". For example, to connect to the WDOC share on SERVERX1, a user on WORK2 specifies the unused local drive letter H, the server name SERVERX1, and the share name WDOC. The user on WORK2 can now access the directories and files within SERVERX1's WORDDATA directory just as if they were being accessed from a locally installed H drive:

Local Drive Letter	Server Name	Share Name
H:	SERVERX1	WDOC

Resource Security

Because connection to the network potentially allows any network user to access the server's shared resources, the server must control this access to ensure that only users who have the proper permission can access these resources.

When you install LAN Manager, you will be able to choose between two available security schemes to implement this access control. These two schemes are share level and user level security.

Share Level Security

Share level security is a simple security scheme whereby the server allows optional assignment of a password to each share. Any network user that can supply the correct password can then access the share. Owing to the minimal security offered by share level, this security scheme is typically not recommended, and will not be covered in this article. (It is not used by RMNetLM)

User Level Security

User level security permits a much higher level of control over access to server resources. With user security, you can control which users have access to which resources.

A user security server maintains a user accounts database with an account for each network user who may want to access the server's resources. The user account contains the user name, password, and other information such as privilege level, which is referred to later in this article. For example, the SERVERX1 user accounts database:

Name	Password
Jill	jillpass
Ted	tedpass

To make administration easier, group names can be established in the user accounts database, with selected users with similar resource access needs assigned as members of a specific group.

In addition to the user accounts database, an access control list is maintained for each server resource. This list specifies what permissions a user or group has been given for the resource.

For example, the SERVERX1 user accounts database's access control list for C:\WORDDATA:

User Account	Access Permissions
Jill	Read only
Ted	Read, Write, Create, and Delete

When a user attempts to connect to or "use" a server share, the server first checks to see if the user's name exists in the user accounts database. If so, the user's password is checked. If both of these security checks pass,

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the connection completes and the user is allowed access to the shared resource according to the user's permissions in the resource's access control list.

For example, users Jill and Ted could both successfully connect to the WDOC share because their names and passwords passed the initial security test. However, user account Jill has been assigned read-only permissions to the WORDDATA directory, so Jill cannot make any changes to files within that directory. User account Ted, on the other hand, has been assigned read, write, create, and delete privileges to the same directory.

Local Security

An extension of user security is the LAN Manager local security feature. Local security extends the control of user-level security to users working directly on the server. Thus, user security with local security enabled imposes the same resource access control on all users, even those who have direct access to the server's keyboard.

Privilege Levels

In addition to controlling which users can access which resources, LAN Manager must also control which users have rights to perform server administration functions such as creating shares, adding users, and assigning resource access permissions.

When user accounts are created, each user is assigned one of three privilege levels: administrator, user, or guest.

Admin Privilege

The administrator, or admin privilege, is the highest privilege level on a LAN Manager network. An admin can stop and start server services, establish and modify user accounts and groups, create and delete resource shares, and assign user and group permissions for accessing shared resources.

By default, admins have full access permissions on all server resources. For the admin's convenience, LAN Manager has been designed to allow server administration procedures to be performed not only at the server itself, but also remotely from any workstation on the network.

User Privilege

User privilege is the default privilege level and is the one that is assigned to most users. This privilege allows a user to use shared server resources (subject, of course, to the user's assigned access permissions) view information about these resources, and send and receive messages.

Guest Privilege

The guest privilege is similar to user privilege, but is intended to be assigned to infrequent or temporary users of the server. Each server has a special user account called GUEST. An administrator may explicitly assign resource access permissions for the special GUEST account.

When a user with guest privileges accesses a share, that user will automatically inherit the resource access permissions that have been assigned to the special GUEST account.

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Stars in their Eyes

David Palmer

I want my pupils to be enthusiastic about creating a spreadsheet but I know that the usual exercises leave them cold. However, they are interested in the film business, so I ask them to pretend that they are casting agents and to create a database containing actors and actresses. This is an exercise which runs very well because students enjoy it.

To start with we discuss suitable fields for the database, including heights, type of role, fee and so on, as well as some of obvious ones like billing (where the star's name appears on the poster and how big it is). We get a lot of entertainment from suggesting that names are created from combinations of screen names and pupils' names, For instance, a small lad called Smith can be included as Rambo Smith and a quiet girl called Jones as Madonna Jones.

If you insist that no pupil's name can be used without their consent, this also serves as a good way of discussing the Data Protection Act. Of course, real names can be used. I am not sure about the legal consequences of using the names of existing actors but since it is in a good cause I usually try it. In fact it tends to be a great help for those too shy to ask others for permission and not inventive enough to create new people.

Students have to create at least 25 records and sort them into at least three different categories for different purposes. This provides an opening to introduce required fields and the value of setting indexes on certain fields.

Once the database is complete, we move on to producing a spreadsheet on the cost of making a film. This is very interesting since some costs are charged only once, while others are time-dependent and will increase more rapidly if the actual time period overruns the predicted time. Clearly this means there must be cells with the predicted time and the actual time of the film-making. As these values will be used for many other calculations, they are good cells to name. The predicted time can also be protected so it can't be overwritten once work starts. When this is complete, you can easily see how much it would cost if shooting runs over by one day or one week.

Some spreadsheets allow you to enter the time in a variety of ways, while others can be very user-friendly where dates and days are concerned so it is worth experimenting. The simplest level is to have the run specified as a number of days. The more adventurous might consider having the date that shooting starts in one cell, the date it finishes in another, and trying to derive the number of days from there. If it has such a facility, the spreadsheet can include switches to react to penalty clauses, too.

The last job is to write a letter to Daddy Warbucks, asking him to be a backer for the film. A synopsis of the plot is needed (plenty of scope for more in-jokes here) as well as indications of who will star in it and what it should cost. Getting students to write can be hard work but I find that if you throw out a few plots, they will really take off as the start to give a summary of the story. For

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example, "This film is going to be a really moving story about a teenage boy who finds that he only has two weeks to live ..." or "*Terminator 7* is about a student transformed into a mechanised cop during a CAD lesson..."

If you have access to the latest Windows applications it is feasible to use Dynamic Data Exchange and Object Linking and Embedding (see below). This means that if your chosen star lets you down then you can change the name of the star in the final letter and have the costing in the spreadsheet automatically react to your new choice by drawing data from the database. The new figures will be automatically appear in another part of the letter, too. This demonstrates the power of applications sharing the same protocols.

The first time I ran this project was with a group of students using a program called *Appleworks* on Apple IIe computers. This was almost 10 years ago but even then you could use the clipboard to shift information from database to word processor and so on. Ironically, I have never found a suite of programs which operates quite as quickly as and neatly as *Appleworks*. We are now using *Excel*, *Superbase* and *Word for Windows*, but I am looking forward to using Access although I won't be able to use it widely since it insists on a 386 or better machine. I have also used Claris Works on the Macintosh and it is very suitable for this venture

Dynamic Data Exchange (DDE) and Object Linking and Embedding (OLE) are ways of having 'live' information which remains attached to its source when it is inserted in other documents or files. If you double click on an OLE table in a Word for Windows document it will start Excel in a window with the relevant data loaded for you to work on. If you have DDE in a letter and you change the data in your spreadsheet, then the next time you open the letter you will find the new data in place. If you have the right equipment then you can also embed sound files or video clips.

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Unlocking Restricted Windows

Stewart R Bondi

The majority of Network users at my School use Windows that is configured to lock the user into only those Windows Applications that the Network Manager has chosen to offer them. The ability to use New, Properties, and Run from the Program Manager File menu are disabled. This is the Restricted form of Windows that most Network Managers are likely to offer to students. Such a configuration provides security and prevents the user from accessing network resources not suited to their needs. For example, I have removed all Windows Games Applets. However, there are a number of educationally relevant "games" that I might want to offer to students at selected times. In the same way, I want to provide controlled access to some DOS-based batch files that must be run to make a remote Laser or a quality colour printer available to the student. There are occasions when I need to diagnose a fault within the student's account and need access to DOS from inside their Restricted form of Windows, or to run the File Manager that is not normally made available.

To solve all of these problems I have written a Windows program that requires a password to be entered before running a predefined Windows application or a DOS-based program. This has proved to be very successful, and since I occasionally have needed to update the password, I have made a number of modifications that allows the Network Manager to independently configure a range of these "password protected application loaders", defining both the actual programs to be run and the password that is to be entered.

Windows 3.1 can easily be set up to run in the same restricted mode, or you can configure it to exclude totally the File menu in the Program Manager. As a result, the use of these password protected application loaders can be extremely useful on standalone computers. I am offering these programs for sale. At this time these programs have been written to run under RM Net 3.1, or on a standalone with Windows 3.1. In the future, I hope to be able to offer a version for RM Net LM. The Minimum requirements for these programs are PC286, with Windows running in standard mode. These programs will not work on PC186 computers using Windows in real mode.

The password is encrypted, and the file containing this password string (and other configuration variables) is read-only.

The Management program, on a network, is stored under the Network Manager's directory, while it can also be protected by a password, its non-public location offers a higher degree of security. On a standalone computer the encoding formula for the Manager's password is different for that used for student passwords. Instructions will include details on how to restrict Windows 3.1.

If you would like to place an order for these programs the prices are as follows:

Standalone use: £5 for 5 Loader programs, £10 for 20 Loader programs (including some pre configured

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examples, such as accessing DOS and File Manager).

RM NET 3.1, and standalone version site licence: £30.

All of the above are inclusive of the Manager Authoring software.

Orders should be sent with full payment (plus £2.00 P & P) to:

The Training Officer
EXCEL (MET) Services
Hatherleigh Road
Exeter
EX2 9JU

Tel:(0392) 412478

Fax:(0392) 75134

I've been using these programs and they certainly work well. I generally want to make all the programs on the network available to all users but there are some which I only want available at specific times. It's not too hard with RM Net LM to make changes to the Windows desktop but you can't make changes if a user has already logged on. There are other ways of doing it but I think this has an elegance to it which makes it easy to understand and use.

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Your Magazine

Many thanks to all those of you who have written articles for the magazine in the past but now it's time to re-emphasise that without you there is no magazine. I quite enjoy putting the magazine together and I'm always happy to take anything you send me and polish it up if you think that it's not quite good enough for publication but if I don't get any articles then you don't get a magazine!

I really do welcome items for the magazine from anyone. You don't have to be a great writer to send something in; send a letter or a short tip for the Hints and Tips pages, everything is welcome. If you want to phone and talk something over then please do; even if you aren't sure how to write something down then I can always include your ideas in Hints and Tips or as a plea for help.

I would be particularly pleased to hear from the people who are using RM computers at home; there are quite a lot of you out there. Some of you will be experienced at working with computers and I would be interested to know why you chose RM for home use. Others will have responded to RM's advertising, perhaps because your children use the same computers at school. How are you getting on with your new machine? Did you have any problems getting started? It doesn't matter if you still don't know the answer to the problem-this is how you'll find out - and it doesn't matter if you think that your problem was trivial; remember that there are many other people who are going to be in exactly the same position as you and will welcome the help that you can give.

If you are writing for me then the ideal is to send me a disc produced using Word or Word for Windows but I can cope with any word processor that runs on a Nimbus (I think). If what you are sending is short then a letter on good old fashioned paper is fine.

Finally, we pay for published articles at the rate of £5 per printed page (although all payments are at the Editor's discretion).

Advertising in the Magazine

Full and half page advertisements can be placed in the magazine and details can be obtained from the Advertising Manager. We also take classified ads and members may place free ads for surplus equipment in MicroMart.

Rates

Back Cover **£100** Inside Cover **£60** Full Page **£50** Half Page **£30**

Classified **£5/100 words**

These rates assume black-on-white, camera ready copy. Please avoid dot-matrix output. Typesetting is charged at cost and is additional to the above rates. Classified ads must be pre-paid; cheques payable to *RM User Group*

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Committee Members 1993/1994

Chairman Ian Burgess	5 Polsted Road Catford London SE6 4YH ..... 081-690 5427 St Dunstan's College Stanstead Road Catford London SE6 4TY 081-690 1274
Vice-Chairman Phillip Fox	73 Parker Rd Horbury Wakefield West YorkshireWF4 5JR 0924 273933
Secretary John Williams	Aston Drey 38 Marsh Road Wilmcote Stratford-Upon-Avon Warwickshire CV37 9XR ..... 0789-269533 Stratford-upon-Avon College, The Willows North, Stratford-Upon-Avon, Warwickshire CV37 9QR 0789-266245
Treasurer Helen Williams	Aston Drey 38 Marsh Road ..... 0789-269533 (as above)
Membership Secretary Maureen Wernham	RMUG, FREEPOST, London, W12 0BR
Editor Steve Rochford	46 Ollgar Close Shepherd's Bush London W12 0NG ..... 081-740 5642 Latymer Upper School King Street London W6 9LR 081-741 1851
Software Librarian Glenn Taylor	Mr G A A Taylor 1 Frayne Road, Ashton, Bristol, BS3 1RU 0272 635816
Advertising Manager Myfanwy Wallace	8 Cornwall Road Cheam Sutton Surrey SM2 6DR 081 661 6408
Mary Mabey	Bacons' College, Timber Pond Road, .. 071 237 1928(S) Rotherhithe, London SE16 1AG ..... 081 698 7573(H)
David Palmer	Ackworth School, Pontefract, West Yorkshire 0977 615225
Stephen Sharrad	10 Gainsborough Hill, Henley-on-Thames Oxfordshire, RG9 1ST 0491 577149
Geoff Strack	36 Carrington Avenue,Borehamwood Hertfordshire WD6 2HA
Peter Wallace	King's School, Satis House, ... 0634 84391(S) Boley Hill Rochester Kent ME1 1TE .. 0634 811099 (H)
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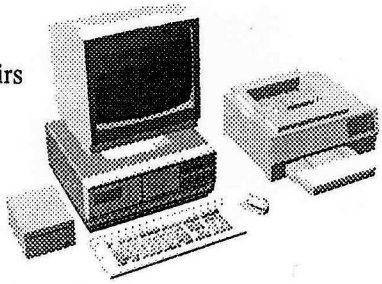

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